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PLANNING FOR VICTORY: JOINT SYNCHRONIZATION

by

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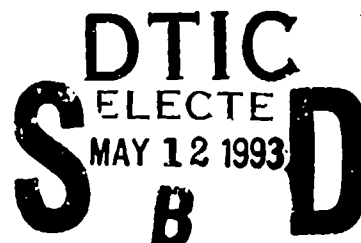
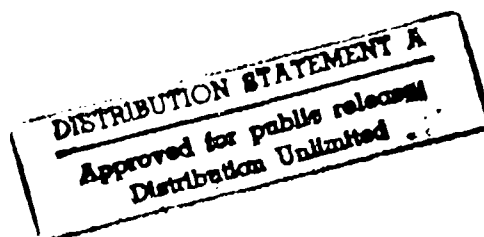
A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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PLANNING FOR VICTORY: JOINT SYNCHRONIZATION

CHAPTER I

INTRODUCTION

Launching the new manual, Joint Warfare of the US Armed Forces (Joint Pub 1), the Chairman of the Joint Chiefs of Staff writes, "So it is when the Armed Forces of the United States go to war. We must win every time."¹ Amidst a period of federal budget deficits, decreased military spending, force reductions and a new world order of potentially increased regional instability, the United States Armed Forces may be required to do just that--win more often, with less resources. Joint Pub 1 provides many broad concepts, principles and applications of joint warfare that are central to this commitment, including "synergy", the key to unlocking the problem of winning more with less. Synergy "results when the elements of the joint force are so effectively employed that their total military impact exceeds the sum of their individual contributions." It is through the "synchronized employment of all available land, sea, air, special operations, and space forces" that the joint commander is able to achieve synergy.² What is significant is the dilemma heaped on the joint planner tasked to do the synchronizing.

Like many concepts, principles and tenets of warfare, joint military doctrine and manuals have defined and explained the importance of synchronization, but they have failed to

provide the joint planner a mechanism for doing it. Synchronization is so vital to operational art that a mechanism must be fully developed for operational planners to use to ensure or improve the synchronization of joint operations and campaigns.

First, I will examine synchronization and it's importance to joint planning. Next, I will argue that there is not enough substantial use of synchronization in the current joint planning process. Then, I will discuss lessons learned from each service and from Desert Storm. Finally, I will offer some proposals or concepts of a joint synchronization matrix.

The U.S. Army and it's officers are the lead service in exploring synchronization. Most of the ideas, concepts and mechanisms they have developed are both appropriate and adaptable for joint operational planning and are the basis for much of my research.

CHAPTER II

SYNCHRONIZATION EXAMINED

Synchronization, as defined in the Army's keystone warfighting manual Operations (FM 100-5), is "the arrangement of battlefield activities in time, space and purpose to produce maximum relative combat power at the decisive point."¹ Synchronization should be used at each level of war. At the tactical level, engagements can be synchronized to win battles. At the operational level, deployment, employment, and sustainment of forces can be synchronized to defeat the enemy. At the strategic level, economic, diplomatic, informational, and military operations can be synchronized to win peace.

Some observers argue operational level synchronization is merely perfecting timing, a sort of deconfliction of forces or firepower in time. Others would offer terms such as "orchestration, harmonizing, and coordination of action" to explain it.² While synchronization has elements of timing, concentration, and coordination, it is much more than this. Those observers are disregarding the extent or degree joint military operations can reach through proper synchronization. More importantly, unless the synchronized effort is focused on that which will secure the objective, regardless of the level of war, the synchronized effort is meaningless. Combining service doctrine, professional writing and my own ideas, I

have formed an opinion what synchronization means to a joint planner today. It is a calculated, simultaneous, multi-dimensional, omnidirectional combat force focused on an enemy center or centers of gravity with attendant supporting element activities and decisions fused so that the consequence is the swiftest and least expensive achievement of the objective.

A critical notion is this concept of centers of gravity. The Joint Chiefs of Staff Basic National Defense Doctrine (Joint Pub 0-1, Proposed Final Pub) defines an enemy's center of gravity as follows:

The characteristic, capability, or locality from which an opposing nation or alliance derives its freedom of action, physical strength, or will to fight is called the enemy's strategic center of gravity. If it can be reduced to a singular capability, the control or disruption of that capability, should be the primary military objective. If an effective campaign against the center of gravity is not feasible, major inroads against several components thereof may provide...[success].³

Identification of these centers of gravity is another problem for joint planners. Centers of gravity are elusive and can change, but for this discussion of synchronization and its importance to joint planning, I am assuming that centers of gravity can be correctly identified.

The reasons why synchronization must be fundamental to joint planners are clear. The shock value of timed multi-dimensional precision and the psychological blow delivered by a refuge reducing, multi-quadrant attack can shatter an enemy's tempo, cohesion and morale.⁴ Synchronization is the means to exploit our technological advantages of space, speed,

command and control, stealth and precision firepower. If executed properly, synchronized forces can "seize, maintain and exploit the initiative and initiate a chain of events to which the opponent is never able to react."⁵ Mastery of synchronization, allows a potentially outnumbered force the most rapid path to success, anywhere along the spectrum of conflict, by applying combat power in ways that only contribute to that success.⁶ Additionally, a simultaneous concentrated effort will most surely be required. For that which an enemy values, his center of gravity, will be most heavily defended.

Since the U.S. Armed Forces must achieve synergy, it is a requirement that joint planners properly synchronize all available forces. Accordingly, the Joint Chiefs of Staff, in JCS Pub 3-0, Doctrine for Unified and Joint Operations, have established the following as a guideline for employing joint forces synergistically:

Apply overwhelming force at decisive points. Joint forces, containing a wide array of military power, should be applied overwhelmingly against decisive objectives. It is the overwhelming application of military force that will take the initiative from opponents and, when applied successfully, defeat them.⁷

It is through such fearlessly bold operations that the synchronized physical and non-physical consequences felt by the enemy multiply synergistically. Because of this relationship, synchronization of joint forces must be fundamental to joint planning and joint planners.

CHAPTER III

THE JOINT METHOD NOW: "JUST DO IT!"

General Gordon R. Sullivan, Chief of Staff of the U.S. Army, has recently identified the important challenge to the Army's combined arms leaders that is arguably even more relevant to present day joint planners. He writes:

The contribution needed most is to improve the integration and synchronization of combined arms on the modern battlefield. We must better synchronize our battlefield operating systems while denying the enemy the ability to synchronize his. This is the challenge.¹

As a starting point to improving joint planning and synchronization, I will examine present methods.

Joint Pub 1 identifies campaigns as the unifying focus for joint warfare. Additionally, it states that the joint campaign plan is what achieves the synchronized employment of all forces.² Campaigns and thus campaign planning are the responsibility of the Commanders in Chief (CINCs) of the Unified and Specified Commands or their joint force commanders. Campaign plans are a derivative of the Joint Operations Planning and Execution System (JOPES) and Crisis Action Planning (CAP) process. JOPES and CAP are valuable structured planning processes that produce the appropriate military course or courses of action that will achieve the ultimate objective. Plans and orders for combat execution are developed based on the joint force commander's decision regarding the course of action. As was discussed earlier, it

may not be feasible to achieve success in one fell swoop. Thus, campaign plans are the actual wartime execution plans of a series of operations. Actions in each phase (whether there is only one or twenty-one) of the campaign should be synchronized, and the phases synchronized together into a campaign.

JCS Pub 3-0 reveals the four present methods campaign plans use to achieve synchronization as follows: "by establishing command relationships among subordinate commands, by describing the concept of operations, by assigning tasks, and by task-organizing assigned forces." Also offered in JCS Pub 3-0 for this assignment of tasks, are the following guidelines: "select forces to participate in operations based on their utility, required skills, expertise, combat readiness and functions."³ The proper selection of forces and the assignment of tasks is the critical aspect of synchronization. My study of present joint doctrine reveals it does not provide a mechanism or process for joint planners to use to accomplish this pivotal selection of forces.

Furthermore, in the new paper, A Doctrinal Statement of Selected Joint Operational Concepts (guidance and augmentation for Joint Test Pub 3-0 and other joint doctrine), the Joint Chiefs of Staff explain that the combinations of forces selected to achieve synchronization are "heavily influenced by Joint Force Commander experience and expertise in the practice of the joint operational art." The paper also identifies

synchronization as one of the "major challenges and opportunities for innovation."⁴

To further illustrate the infancy of present joint campaign planning doctrine and total lack of a mechanism for synchronization is a 1988 study titled, Campaign Planning by the Strategic Studies Institute, U.S. Army War College. In the study, the authors recognized the fact that there was considerable confusion about how to plan a campaign, and there was no concrete mechanism that synchronizes all land, air and sea forces in a theater. They attributed this to a lack of comprehensive joint doctrine for campaign planning.⁵ The thoughts and ideas this study developed for campaign planning appear to have been recently adopted and are currently found in the previously cited test pubs, proposed pubs, and new joint manuals including Joint Pubs 1, 0-1, and 3-0.

Present doctrine does not yet include a mechanism for developing a joint plan that synchronizes all air, land, and sea operations. This is a recognized deficiency. Joint doctrine tasks planners to synchronize by saying in essence: "just do it!" Without a substantial mechanism or way to do it, joint planners are forced to rely on experience, command relationships and innovation to ensure the essential function of synchronization is accomplished.

CHAPTER IV

THE SERVICES' APPROACH

If synchronization is important and must be accomplished, yet a mechanism for doing it is absent from the joint planning process, this suggests I look elsewhere to improve joint planning for synchronization. The services have each developed methods of achieving tactical synchronization of their forces that can be useful in improving joint planning. What follows is an examination of some of these.

U.S. Marine Corps Campaigning. The U.S. Marine Corps has fully espoused the art of campaigning. They have developed functional and detailed designs and planning aids that are formulated from the Commander's conceptional plan of the campaign. These include such tools as movement schedules, landing tables, resupply schedules, communication plans, and control measures. There is not one overall mechanism that synchronizes all of the Marine Corps activities nor one design that is adaptable to any activity. Because of this, I feel this group of planning aids, as is, is not valuable to a joint planner. But what is worthwhile, is the scope and characteristics of these Marine Corps functional and detailed aids. They are event oriented vice time oriented, and are clearly more detailed for earlier phases than future phases. These tools attempt to be not so specific that they inhibit flexibility. Additionally, they provide for multiple

options.¹ All of these are valuable concepts to be incorporated into a joint mechanism for synchronization.

AirLand Battle Synchronization. The U.S. Army has developed an interesting mechanism for synchronizing their AirLand Battle plans. They use a synchronization matrix, which allows a planning staff a method to synchronize courses of action developed in the JOPES and CAP processes across time and space in relation to enemy's likely course of action, an objective, critical events or support functions. An example is offered as Figure 1 in Appendix I. Figure 1 represents an Army division offensive course of action against specific objectives. A U.S. Army division has forces assigned to each of seven functions for offensive operations. These are represented down the left side of the matrix, and include maneuver forces (shooters), air defense, fire support (artillery, etc.), intelligence and electronic warfare, engineer forces (bridge builders, etc.), sustainment or logistics, and command and control. This matrix synchronizes the support efforts with the maneuver effort. Importantly, this synchronization does not begin at H-hour as the maneuver forces cross the LD/LC (line of departure/line of contact), but much earlier. Simultaneous and sequential tasks are synchronized by time, space and purpose into the plan as the requirements are developed. Units and weapons are selected that mesh into the scheme of the matrix. This system takes into account the fact that military operations are a series of

actions, reactions and counteractions, even proposing some likely enemy courses of actions that appear to have been formulated during the planning process. Another very valuable concept of this matrix is the built-in decision points. These offer the commander and his staff, who are running the battle, opportunities to evaluate progress, look for opportunities to exploit advantages, slide the timing, change the focus of the offensive, or reorient the plan. This matrix could easily incorporate other operations, functions or units. Additional areas, such as special operations or Air Force support, could be shown as separate line entries.² Army intelligence planners use a similar matrix to synchronize their priority intelligence requirements of the battlefield such as; enemy, weather, and terrain. Thus, they can better distribute information among the many units they provide support to.³ Army logisticians also have adapted this matrix for synchronization of supply and sustainment of forces.⁴ By drafting, editing, reworking and finalizing this matrix, Army planners can portray planning concepts that synchronize relationships of forces over time, space and objective. This Army tactical synchronization matrix is an excellent foundation for applying joint planning concepts to construct a valuable mechanism for joint planners to use to achieve synchronization.

U.S. Navy Tactics. While no specific mechanism for synchronizing U.S. Navy forces has been developed, Navy

planners always develop time lines for air strikes and naval battles to coordinate and deconflict forces. Additionally, entire naval tactics have been developed to achieve synchronization of forces and a synergistic effect. To emphasize this, Retired Captain Wayne P. Hughes wrote, in Fleet Tactics Theory and Practice, "over the course of history, the central problem of naval tactics has been to attack effectively, that is to say, to bring the firepower of the whole force into battle simultaneously." Included in this is the idea of "concentrating one's whole force on a portion of the enemy's in order to defeat him in detail." The object of naval tactics being thus, to do this to the enemy before he did it to you.⁵ Examples range from the great sailing ship tactic of capping the T, where one fleet brought a full broadside to bear on only the forward guns of the lead ships of the other fleet, to the immense U.S. carrier task forces that could launch a thousand aircraft in 30 minutes while driving across the Central Pacific obliterating the Japanese Navy during World War II. The valuable lessons that can be applied to joint synchronization from these Navy approaches are the concepts of concentration and of striking first. Present day exploitation of space based communications and intelligence gathering along with computer technology must be an integral part of the joint synchronization and planning process. It is only through such advantages that we can assure the synchronized force can strike first.

Master Attack Plan: Desert Storm. An analysis of the U.S. Air Force's planning of the air portion of Operation Desert Storm highlights an outstanding method they developed to achieve synchronization. The 42 day air attack launched against Iraq was executed by joint and combined air forces of the coalition, but was most certainly conceived, planned and constructed by the U.S. Air Force. The basic concept was developed by Air Force officers of the Air Staff. It called for a simultaneous and continuous large scale air attack on five different centers of gravity, with the emphasis shifting as the operation progressed. These centers of gravity included Iraqi leadership, key production facilities, infrastructure, population and the fielded military forces. After the concept was approved and some of the thousands of targets were identified, it was passed off to CINCCENT's Air Component Commander to continue to nominate targets, prepare the campaign plan, write operations orders, formulate execution plans, and distribute tasking orders. To tackle this enormous obstacle, the joint planners in Saudi Arabia used what became known as the "master attack plan", from which the daily air tasking order (ATO) was prepared.⁶

The master attack plan, according to the chief planner, was "one single document that would lay out sequentially the time, where we were going, what we were attacking, with what, and how we were attacking in a logical format."⁷ With emphasis on the previously discussed centers of gravity, the

master attack plan selected forces by focusing on the effect of the weapon. Air power forces were synchronized by timing, altitude, direction, capability, targets, fuel requirements, takeoff and land times, weather, restricted areas, and intelligence information.⁸ Lieutenant General Charles A. Horner, the Joint Forces Air Component Commander (JFACC), summed it up this way, "mission after mission struck at the heart of Iraq, systematically eliminating the enemy's warfighting capabilities." He explained further, "the disruption of Iraq's command and control created confusion and chaos...the constant bombardment and precision-guided weapons took a tremendous toll...[which] made the Iraqi soldier susceptible to our psychological campaign."⁹

Desert Storm's initial air attack, 2:39 a.m.-5:25 a.m. (local time) January 17, 1991, is an excellent example of how the Air Force's master attack plan achieved exceptional synchronization, produced synergistic results and led the way for an unprecedented coalition victory. Prior to H-hour, 668 coalition aircraft took off for targets in Iraq. But the synchronized attack actually began as much as 12 hours earlier when the cruise missile equipped bombers took off from their bases in the United States. Even earlier, the deception part of the scheme had been hatched by getting the Iraqis accustomed to seeing tanker orbits and combat air patrols on their radars. Terrain following low altitude cruise missiles launched from B-52s and surface ships were synchronized to

arrive, from multi-directions, over their targets just as the high altitude stealth bombers dropped the first bombs on Iraq. Simultaneously, armed helicopters, additional F-117s, jammer aircraft and aircraft armed with anti-radar missiles opened a corridor for hundreds of conventional bombers to begin a relentless attack against Iraqi centers of gravity that would last throughout the war. All of the support functions were synchronized via the master attack plan, including fighter cover, command and control, refueling, radar, rescue and many other forces. Adorning the synchronization of this first night's attack is the fact that at precisely 3:00 a.m. (H-hour) CNN coverage from Baghdad was knocked off the air.¹⁰

Conclusion. Each of the services has developed methods and even tactics (in the case of the Navy) for the synchronized employment of their forces. Each of the mechanisms--Marine Corps planning aids, strike time lines, AirLand Battle synchronization matrix, and the Desert Storm master attack plan--can contribute significantly to a joint synchronization tool.

CHAPTER V

A JOINT SYNCHRONIZATION MATRIX

By combining the meaningful characteristics and concepts from the Air Force, Navy and Marine Corps approaches along with the Army's concept and format, I think an effective tool can be developed for joint operational planners to use that can ensure or improve the synchronization of operations and campaigns. I will offer two such proposals.

Joint Sync Matrix: D-day, 1944. Figure 2 is offered as one proposal of how a joint synchronization matrix might look and be used. It portrays a limited, but large scale, glimpse at Phase One of the Normandy Campaign, the allied D-Day landing. It is not intended to be accurate, only to show the usefulness of such a tool to a joint planner. The joint planners' mission was to plan a landing on the Normandy coast in order to establish a bridgehead that would allow sufficient buildup of forces that could then conduct operations destroying the enemy and driving to the heart of Germany.¹ A real synchronization matrix for an operation this large would probably cover an entire wall. As the planners determined the joint warfighting requirements, they could have listed them down the left side of the matrix. I have listed several of the hundreds from this operation using present terminology. This matrix shows how throughout D-day all of the joint force efforts had to be synchronized in order

that the five infantry and three airborne divisions could complete a link-up from Cabourg in the east to Quineville in the west and consolidate the beachhead six miles inland.

To illustrate how this matrix (Figure 2) works, I will discuss one of the warfighting requirements, AI or air interdiction. AI for D-day was accomplished by units from the Royal Air Force Bomber Corps, the U.S. Eighth Air Force from Britain, and the U.S. Fifteenth Air Force from Italy. The Combined Bomber Offensive, by these forces, had been underway as a prerequisite to D-day for nearly a year. Thousands of targets in France, Germany and the Low Countries had been attacked. But, those targets that would reveal or highlight Normandy as the location of the allied landing had not been hit. On D-day massive attacks against these targets were synchronized with the beach assault and with fighter cover from Britain.² The planners could have continued using this kind of matrix to synchronize all of the warfighting requirements that needed to be simultaneous or those that needed to be sequential.

Joint Sync Matrix: Hostage Rescue Problem, 1993. Figure 3 is offered as a much different proposal of how a joint synchronization matrix could be used. The mission for the joint planners in this fictitious problem is to plan the rescue and transport to safety of 50-100 American hostages from a Caribbean island.³ As the planners proceed through the CAP process, they would develop feasible, suitable and

acceptable courses of action and a concepts of operations. Taking into account intelligence, logistic, and communications estimates of the situation. Once a course of action and corresponding concept of operations had been approved, the planners would identify military objectives and tasks that will secure these objectives. The next step would be to employ a synchronization matrix such as I propose. A synchronization matrix for an operation such as this would include several categories of action including: offensive, defensive, support, logistics, intelligence, and coordination. My matrix for this problem only illustrates the offensive action and associated tasks, but would be equally developed for all other areas. By listing the military objectives down the left side, as I have done in Figure 3, the planners can get a clear picture. They can see what objectives must be accomplished first and which ones need to be done simultaneously. By using this matrix, planners can mix, match, test, change, switch, and swap forces and objectives before making final assignments. The goal being to produce the best simultaneous, focused, multi-dimensional, omni-directional force that swiftly and surely achieves the objective. Once the finalized matrix is complete, it would be a relatively easy task for the joint planner to draft the execution paragraph of the Operations Order. For example, the execution paragraph for SEAL platoon 2 would read: At H-hour minus 2 minutes shut off electrical power to the airport at

the electrical switching station, 1000 meters from the approach end of runway 09. Additionally, it would read: Illuminate portable runway end lighting at H-hour plus 3 minutes. Many coordinating instructions could come right off the matrix such as, the time to avoid certain roads and areas. The last steps of the planning process would occur after the individual units received the Operations Order. Individual units would use their own plans, procedures and tactics for the actual decentralized execution. Through the use of this centralized direction synchronization matrix, the joint planner ensures all of the units' effort is focused such that the total military effect exceeds the sum of their individual contributions.

Potential Problems. Some problems can be anticipated if such a planning tool is mandated. A synchronization matrix such as I propose should not become a checklist, a joint planner should not use it out of fear of leaving something out. I envision it as an adaptable tool that can be especially useful to inexperienced planners, but not mandatory. Remember, it should not become more important than the plan. A proper mechanism could help joint planners synchronize forces especially for opening attacks or opening phases of operations and campaigns.

An additional drawback could be the synchronized arrangement of forces and tasks in time, space and purpose might become predictable. Eventually yes, but predictability

is something that joint commanders and planners should always watch out for. Hopefully, the different crisis situations and adaptations of this kind of planning aid as used by different planning staffs and personnel will work to keep the actual employment of forces unpredictable. Therefore, as of yet, fear of becoming predictable is not a reason to stop development of a joint synchronization mechanism.

In practice, the transfer of a plan from paper to reality is replete with difficulties. To this extent, joint planners must keep such a planning aid simple and executable. The matrix should ensure decisive force is applied and success is not dependent on only one unit, task or event. Furthermore, as Helmuth von Moltke once expressed, "no plan of operations survives the first collision with the main enemy body."⁴ In this regard, such a synchronization matrix can not replace individual or unit initiative nor replace the joint commander's intent nor subvert command relationships.

In summary, there are some limited drawbacks, but the potential to improve the synchronization of joint forces is high. Perhaps precious time during a future crisis will be saved if this type of mechanism has been developed, tested, validated and implemented in the planning process. This is underscored by General Sullivan's recent challenge to combined arms leaders, he wrote, "Procedures are vital to synchronization; when the decision and orders processes are well

trained, commanders and staffs can remain focused on what they want to accomplish, not how to do it."⁵

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

The proper synchronization of joint forces is an important part of achieving synergy. If the United States Armed Forces expect to maintain the advantage that we currently hold, we must continue to deploy and employ forces smarter and less expensively. A large part of this equation is synchronization, which can only be achieved through creative planning. Presently, there are no aids or mechanisms that a joint planner has at his disposal to help this creativity. Each of the services has developed tactical methods that are outstanding tools to synchronization. Many times joint planners are forced to develop them on the spot as the Air Force did in Desert Storm. Potentially, if a matrix such as I propose was developed, implemented, refined and adopted by joint commands, critical time in a crisis could be saved and the planners would be able to synchronize their time, space and effort on the plans rather than the methods.

I have offered two simple proposals that are not meant to be rushed off to the CINCs for immediate incorporation and implementation. They are a first step in providing a much needed mechanism to help joint planners improve synchronization. It is in the best interest of the Armed Forces that joint planners come up with useful tools, like the Desert Storm master attack plan, and distribute them to

others. Operational planners could put these matrixes into use during the JOPES and CAP planning processes, improving them each exercise or contingency. Furthermore, the War Colleges could better educate students on synchronization and current methods and tools available to attain it. My proposals could be a basis for developing a truly valuable framework, guideline, tool or mechanism that joint planners can use to ensure or improve synchronization.

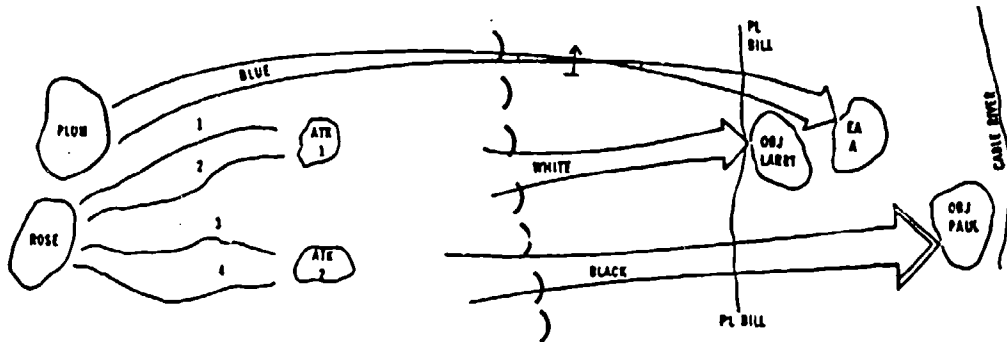
APPENDIX I

SAMPLE AND PROPOSED

SYNCHRONIZATION MATRIXES

FIGURE 1

SAMPLE SYNCHRONIZATION MATRIX
DIVISION OFFENSIVE COURSE OF ACTION



Time	-14 hr	-12 hr	-10 hr	-8 hr	-6 hr	-4 hr	-2 hr	M-5 hr	H hour	+6 hr	+10 hr	+12 hr	+14 hr	+22 hr
Enemy Action			Threat monitor movements continue def prep				counter btry		lights from 1st bell pos		defend in 2d bell RAG for fire		res moves to 2d/Block main 2d	
Decision Points											11) launch deep 2d			27) cont 2d
MANEUVER	Deep												ava bde 2d res rec EA A	
	Security	reson moves secure fuel areas				agdn moves 3d on rts 3 & 4	(refuel)		car agdn moves		prep to screen rt Bank		screen rt Bank	
	Close		bde moves rts 1 & 2, (refuel) 3 & 4				lead bde move to LD/LC		cross LD/LC		secure Obj LARRY bde penetrate 2d bell pos res		2d Obj PAUL	secure Obj PAUL
	Reserve			bde moves 2d on rts (refuel) 3 & 4			bde moves				continue 2d to Obj PAUL			continue 2d or def
	Rear	ava bde Level III response							risk in rear area ava bde prep deep 2d					
Air defense	wpns HOLD		wpns TIGHT	protect rts & refuel areas		Protect move to LD/LC	protect lead bde	wpns FREE						1st def
Fire support		move to fwd fire pos		coord w/support btry			fire prep	provide CS/GS 1st		2d RAG For SEAD			1st 2d on Obj PAUL	
IEW				latest threat LOC			find RAG & threat res	confirm 1st threat res		confirm move of threat res				1st threat beyond Obj PAUL
Engineer				stand rts			1st to lead bde mob on 2d			maint on MSR				prep def or 2d
Sustainment		Refuel & maint units move		refuel & 2d on 2d pos			refuel & maint units to MSD			resupply bde on Obj LARRY				resupply Obj PAUL
CI		coord cross LD/LC main, Ad Res		1st CP 2d lead bde				main plans cont 2d		main prep to move				main CP move

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Source: U.S. Army Command and General Staff College, Techniques and Procedures for Tactical Decision Making, Student Text 100-9 (Fort Leavenworth, KS: 1991), p. 4-6.

FIGURE 2

PROPOSED JOINT SYNCHRONIZATION MATRIX
(FOLD OUT)

FUNCTION	UNIT(S)	TIME				
		00	01	02	03	04
ASW WEST CHANNEL EAST CHANNEL CENTRAL CHANNEL	ALLIED FLEET				commence sweep	
AMW CHERBOURG-LE HAVRE UTAH OMAHA GOLD JUNO SWORD	ALLIED FLEET	complete sweep				
ASW SWEEPS CHERBOURG-BREST CALAIS-LE HAVRE	ALLIED FLEET					
CONVOY PATROL/ TRANSPORTS	ALLIED FLT	enroute via Central Channel				
NAVAL GUNFIRE	ALLIED FLT					
TACTICAL RECON	SAS/RAF	SAS beach recon	report findings			
AI	RAFBC/US 8TH+15TH	France+Low Countries				
OCA	RAFBC/US 8TH					
DCA	RAF 2ND/US 9TH					
BAI	RAF 2ND/US 9TH					
CAS	RAF 2ND/US 9TH					
ASSAULT FORCES RIGHT FLANK UTAH OMAHA GOLD JUNO SWORD LEFT FLANK	US 1ST+BR 2ND ARMY US 82ND/101ST US 4TH US 1ST/29TH BR 50TH CDN 3RD BR 3RD BR 6TH				airborne assault embark ldg craft airborne assault	
ENGINEERS						

FIGURE 2 (CONT)

PHASE I NORMANDY CAMPAIGN
D-DAY 06 JUNE 1944

- 05 - 06 - 07 - 08 - 09 - 10 - 11 - 12 - 13 - 14													
MISSION/OBJECTIVES													
commence patrols - western patrol area - eastern patrol area fan to assigned patrol areas													
counter- mine sweeps and channel marking													
continue counter mining patrols Sword-Utah													
commence anti-shipping sweeps east and west of safe													
establish Central Channel													
open fire													
cease prep fire / commence on call fire support													
RAF scout out G. armor movements													
ATTACK Seine R. bridges/ Sarth R. bridges/ Paris-Caen rail lines/G. 21st Panzer + 5th Army													
establish AAW Cap east and south of Normandy/													
combat air patrol													
establish cap over													
over allied fleet													
beachhead													
ATTACK Ger. reserves in Caen, Bayeux, Cotentin peninsula													
ATTACK beach batteries, on-call direct support													
*obj-Orne R. bridge, Caborg-Caen LOCs													
scout right flank													
storm the beaches													
consoli- date position													
move to dominant terrain													
est. beach- head													
commence armored thrust to assigned objectives													
*obj-Cotentin peninsula LOCs													
scout left flank													
commence													

FIGURE 2 (CONT)

- 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 -

safe passage corridor for strategic sealift, logistics

safe passage corridor

ATTACK any armor movements reported by recon

ATTACK all G. fighter bases within 200 miles Normandy

and the road to St Lo

continue	*obj-Qville, Ste M.E., Car.
deep	*obj-Isigny, Treveres
penetrations	*obj-Bayeux
	*obj-Caen
	*obj-Caen

Effect linkup
with all
Allied Forces
from Cabourg in
the east and Q'ville
in the west, consolidate
beachhead 6 nm deep

each obstacle clearing /begin efforts to open beach port facility

FIGURE 3

PROPOSED JOINT SYNCHRONIZATION MATRIX
CARIBBEAN HOSTAGE RESCUE PROBLEM

TIME	-3 (minutes)	-2	-1	H hr	+1	+2	+3 (minutes)	+4	+5	+6	+7
OBJECTIVES	TASKS										
4 MISSILE/ROCKET EMPLACEMENTS AIRPORT (F-117 2000 lb PGM)	destroy										
HOSTAGE FACILITY (SOF Group and Wing)		takedown					hostages to terminal		hostages to C-130		
AIRPORT TOWER (Ranger BN)						takedown					
AIRPORT TERMINAL (Ranger BN)						takedown					
AIRPORT RUNWAY (MEUSOC Helo Assault)						takedown					
AIRPORT PERIMETER (C-130 landed assault, Airborne BDE, MEU Cobras)									secure		
AIRPORT ENTRANCE+ ROAD NORTH (TLAM)	destroy										
AIRPORT ENTRANCE+ ROAD SW (TLAM)	destroy										
ELECTRICITY GRID (SEAL Platoon 1)	shut-off										
BACK-UP AIRPORT GENERATOR FACILITY (SEAL Platoon 2)		destroy									
LIGHT RUNWAY (SEAL Platoon 1)							illuminate				
TRANSPORT AIRCRAFT (2 C-130s, 1 Pri/1 B-up, 8 H-46 in Reserve)								land	arrive terminal		T/O

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